AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) ~~Optical~~ An optical transmission system comprising at least one transmitter, at least one transmission line ~~(14),~~ including at least one optical fiber amplifier, and at least one receiver communicably linked to the transmitter via the transmission line,

the optical fiber amplifier being designed to show a flat characteristic of output power versus wavelength,

wherein the optical fiber amplifier is designed to show the flat output characteristic in response to a flat characteristic of a first input power level versus wavelength,

the transmission system further comprising at least one coupler ~~for coupling~~ and at least one Raman amplifier ~~to the optical transmission system~~ coupled to the transmission line via the coupler, the Raman amplifier comprising a plurality of Raman pumps and having a Raman gain that is tilted in a direction opposite to a tilt of the optical fiber amplifier that would occur in response to a flat characteristic of a second input power level versus wavelength such that the opposite tilt directions of the Raman amplifier and the optical fiber amplifier compensate each other and a noise figure characteristic achieved with the Raman gain rises with increasing wavelengths.

2. (Original) The system of claim 1, wherein the optical fiber amplifier is an Erbium Doped Fiber Amplifier.

3. (Original) The system of claim 1, wherein the coupler is a multiplexer.

4. (Original) The system of claim 1, wherein the coupler is a circulator.

5. (Original) The system of claim 4, wherein the circulator substitutes an isolator.

6. (Original) The system of claim 1, wherein the at least one Raman amplifier is added to the system leaving the remaining system unchanged.

7. (Canceled)

8. (Currently Amended) The system of claim 7, wherein the Raman amplifier comprises three Raman pumps, wavelengths and powers of which being chosen to result in a predetermined gain tilt, and each of the Raman pumps emits a power with a spectrum having a maximum in wavelength range of 1400 nm to 1520 nm, each maximum referring to a different wavelength, the emitted power allocated to a spectrum with a maximum at a shorter wavelength exceeding the emitted power allocated to a spectrum with a maximum at a longer wavelength.

9. (Currently Amended) ~~The system of claim 8~~ An optical transmission system comprising at least one transmitter, at least one transmission line including at least one optical fiber amplifier, and at least one receiver communicably linked to the transmitter via the transmission line,

the optical fiber amplifier being designed to show a flat characteristic of output power versus wavelength,

wherein the optical fiber amplifier is designed to show the flat output characteristic in response to a flat characteristic of a first input power level versus wavelength,

the transmission system further comprising at least one coupler and at least one Raman amplifier coupled to the transmission line, the Raman amplifier having a Raman gain that is tilted in a direction opposite to a tilt of the optical fiber amplifier that would occur in response to a flat characteristic of a second input power level versus wavelength such that the opposite tilt directions of the Raman amplifier and the optical fiber amplifier compensate each other,

wherein the Raman amplifier comprises three Raman pumps and each of the Raman ~~pump~~ pumps emits a ~~certain~~ power with a spectrum having a maximum in ~~the 14xx nm~~ wavelength range of 1400 nm to 1520 nm, each maximum referring to a different wavelength, the emitted power allocated to a spectrum with a maximum at a shorter wavelength exceeding the emitted power allocated to a spectrum with a maximum at a longer wavelength.

10. (New) A method of improving an optical signal to noise ratio in an optical transmission system comprising at least one transmitter, at least one transmission line including

at least one optical fiber amplifier, and at least one receiver communicably linked to the transmitter via the transmission line, wherein the optical fiber amplifier exhibits a flat characteristic of output power versus wavelength, and the optical fiber amplifier exhibits the flat output characteristic in response to a flat characteristic of a first input power level versus wavelength, the method comprising coupling a Raman amplifier to the optical transmission system, the Raman amplifier having a Raman gain that is tilted in a direction opposite to a tilt of the optical fiber amplifier that would occur in response to a flat characteristic of a second input power level versus wavelength such that the opposite tilt directions of the Raman amplifier and the optical fiber amplifier compensate each other, the Raman amplifier comprising a plurality of Raman pumps which emit a power with a spectrum having a maximum in a wavelength range of 1400 nm to 1520 nm, each maximum referring to a different wavelength, the emitted power allocated to a spectrum with a maximum at a shorter wavelength exceeding the emitted power allocated to a spectrum with a maximum at a longer wavelength, and a noise figure characteristic achieved with the Raman gain rises with increasing wavelengths.

11. (New) The system of claim 10, wherein the optical fiber amplifier is an Erbium Doped Fiber Amplifier.

12. (New) The system of claim 10, wherein the coupler is a multiplexer.

13. (New) The system of claim 10, wherein the coupler is a circulator.

14. (New) The system of claim 13, wherein the circulator substitutes an isolator.

15. (New) The system of claim 10, wherein the Raman amplifier is added to the system leaving the remaining system unchanged.